



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/525,521

08/09/2005

Kenji Yasuda

2005-0271A

7026

513

7590

12/18/2008

WENDEROTH, LIND & PONACK, L.L.P.

2033 K STREET N. W.

SUITE 800

WASHINGTON, DC 20006-1021

EXAMINER

NAGPAUL, JYOTI

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

12/18/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/525,521	Applicant(s) YASUDA ET AL.	
	Examiner JYOTI NAGPAUL	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Rejection of Claims 1-10 as being unpatentable over JP 11-218691 (cited by applicant, herein '218) in view of Heller (US 5849486) has been withdrawn in light of applicants' amendments.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1, 5 and 6** are rejected under 35 U.S.C. 102(b) as being anticipated by Ohkawa (US 5486337).

With respect to instant claim 1, Ohkawa teaches a droplet operation for biological and/or medical analysis comprising an insulating substrate (12), a plurality of electrode units (38 and 40) arranged on the insulating substrate (12). The electrode units (38 and 40) are for controlling movement and stoppage of a droplet (24). (See Col. 2, Lines 28-50) The apparatus further comprises an insulating layer (refer to col. 6, Lines 66 to col. 7, lines 1-4) covering an upper surface of each of the electrode units (38 and 40). The upper surface being opposite to a lower surface of each of the electrode units (38 and 40) that is in contact with the insulating substrate (12). The apparatus further comprises a unit/pipette (60) that supplies the droplet (24) onto a surface of the insulating layer (refer to col. 6, Lines 66 to col. 7, lines 1-4). (See Figure 3) The apparatus further

Art Unit: 1797

comprises a unit/voltage source (26) that applies an electric field to the electrode units (38 and 40) so as to control the droplet (24) on the surface of the insulating layer (refer to col. 6, Lines 66 to col. 7, lines 1-8). The apparatus further comprises a unit that measures a state of the droplet (24). (See Col. 2, Lines 52-55) According to col. 6, Lines 66 to col. 7, lines 1-8, the surface of the insulating layer is water repellent.

With respect to instant claim 5, the apparatus further comprises a unit that mixes a plurality of droplets. Ohkawa teaches a reaction with other droplets which is equivalent to mixing a plurality of droplets. (Refer to col.1, line 65)

With respect to instant claim 6, the droplet (24) contains a cell or a microbe. (Refer to Col. 1, lines 1-25)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 1797

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. **Claims 2-4 and 7-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohkawa in view of Fisher (US 6589739).

Refer above for the teachings of Ohkawa.

Ohkawa fails to teach a unit that optically and telescopically measures an internal state of the droplet. Ohkawa further fails to teach a unit that measures fluorescence and absorbance intensity of the droplet. Ohkawa does teach that after the droplet is located it can be analyzed, treat or other wise dealt with as desired. (See Col. 2, Lines 53-55)

Fisher teaches an apparatus for analyzing droplet. The apparatus comprises optical and telescopic methods for measuring the internal state of a droplet on a substrate in order to observe the fluorescent signal of the droplet. (See Col 1, Lines 15-25) (See Col. 4, Lines 43-52)

Art Unit: 1797

It would have been obvious to one having ordinary skill in the art to provide the device of Ohkawa with optical and telescopic units as disclosed in Fisher in order to observe the fluorescent signal of the droplet.

Allowable Subject Matter

7. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Prior art fails to teach the surface of the insulating layer has a groove and a unit that supplies the droplet onto the surface of the insulating layer supplies the droplet to the groove on the surface of the insulating layer.

Response to Arguments

8. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection. Refer to the above rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JYOTI NAGPAUL whose telephone number is (571)272-1273. The examiner can normally be reached on Monday thru Friday (10:00-7:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1797

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jyoti Nagpaul/
Examiner, Art Unit 1797